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 NEWS 3 Feb 06 Engineering Information Encompass files have new names
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 NEWS 6 Apr 23 PRE-1967 REFERENCES NOW SEARCHABLE IN CAPLUS AND CA
 NEWS 7 May 07 DGENE Reload

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=> file reg

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	ENTRY	SESSION
FULL ESTIMATED COST	0.15	0.15

FILE 'REGISTRY' ENTERED AT 13:20:16 ON 12 JUN 2001

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DICTIONARY FILE UPDATES: 10 JUN 2001 HIGHEST RN 340232-86-2

TSCA INFORMATION NOW CURRENT THROUGH January 11, 2001

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Structure search limits have been increased. See HELP SLIMIT
for details.

=> s lipoic acid

```
          66 LIPOIC
    4963747 ACID
L1          61 LIPOIC ACID
          (LIPOIC(W)ACID)
```

=> s thioactic acid

```
          0 THIOACTIC
    4963747 ACID
L2          0 THIOACTIC ACID
          (THIOACTIC(W)ACID)
```

=> s thioctic acid

```
          16 THIOCTIC
    4963747 ACID
L3          15 THIOCTIC ACID
          (THIOCTIC(W)ACID)
```

=> file caplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	23.11	23.26

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FILE COVERS 1947 - 12 Jun 2001 VOL 134 ISS 25
FILE LAST UPDATED: 11 Jun 2001 (20010611/ED)

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=> s 11

L4 3087 L1

=> s 13

L5 1672 L3

=> s 14 or 15

L6 3177 L4 OR L5

=> d 120:315465 all

ANSWER 1 CAPLUS COPYRIGHT 2001 ACS

AN 1994:315465 CAPLUS

DN 120:315465

TI Protective effect of lipoic acid on biphasic creatine kinase release from rat heart in early ischemia reperfusion period

AU Gao, Tianli; Zhang, Ying

CS Dep. Biol., Peking Univ., Beijing, Peop. Rep. China

SO Beijing Daxue Xuebao, Ziran Kexueban (1993), 29(4), 492-7

CODEN: PCTHAP; ISSN: 0479-8023

DT Journal

LA Chinese

CC 1-8 (Pharmacology)

AB Ischemia reperfusion injury of heart induces massive release of creatine kinase (CK). By means of Langendorff method isolated rat heart was perfused with Krebs-Henseleit (K-H) soln. The perfused sequence was 10 min equil., 10 min global ischemia, and 3 min reperfusion. Effluents

were

collected every 15 s for CK activity (U/L) anal. as an index of cellular damage to investigate the protective effect of lipoic acid on reperfusion injury. Perfusion without substrate caused a biphasic CK release which could be reduced or deleted by inclusion of lipoic acid (LA, 3,5 .times. 10-5 mol/L) or glucose (11 mmol/L) to the perfusate. Inclusion of LA before and after ischemia could similarly decrease total CK release and the 1st peak, as well as delete the 2nd peak. Glucose plus LA had additively protective effect to CK release. LA treatment also decreased the incidence of arrhythmia during 3 min reperfusion period. In all LA treated groups the redn. of CK release by LA may be attributed to its

free

radical scavenger mechanism.

ST lipoate creatine kinase heart ischemia reperfusion

IT Radicals, biological studies

RL: BIOL (Biological study)

(scavenger, lipoic acid as, biphasic creatine kinase release from

heart

in early ischemia reperfusion period protection by)

IT Heart, disease

(ischemia, reperfusion period, biphasic creatine kinase release in early, lipoic acid protection of)

IT Perfusion

(re-, period from heart ischemia, biphasic creatine kinase release in early, lipoic acid protection of)

IT 57828-26-9, Lipoic acid

RL: BIOL (Biological study)
 (biphasic creatine kinase release from heart in early ischemia
 reperfusion period protection by)
 IT 9001-15-4, Creatine kinase
 RL: BIOL (Biological study)
 (biphasic release from heart in early ischemia reperfusion period,
 lipoic acid protection of)

=> d 132:83671 all

ANSWER 1 CAPLUS COPYRIGHT 2001 ACS
 AN 132:83671 CAPLUS
 TI Creatine-containing formulations
 IN Seyerl, Joachim
 PA SKW Trostberg A.-G., Germany
 SO Ger. Offen., 6 pp.
 CODEN: GWXXBX
 DT Patent
 LA German
 IC ICM A61K031-195
 CC 63-6 (Pharmaceuticals)
 Section cross-reference(s): 17

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19830768	A1	20000113	DE 1998-19830768	19980709
AB	Pharmaceutical formulations for treatment of muscular dystrophy and other myopathies, as well as nutritional supplements, are provided which contain creatine or a salt thereof 0.1-10 g, .gtoreq.1 neurotransmitter or precursor thereof 2 mg-8 g, .alpha.-lipoic acid 0.3-3 g, and optionally L-carnitine or a salt thereof 0.8-1 g and/or coenzyme Q10 50-150 mg (all amts. refer to daily doses). Creatine contributes to muscle energy metab. through its conversion to phosphocreatine. Neurotransmitters and assocd. compds. such as choline and taurine improve nerve and muscle function; hypericin, an MAO inhibitor, functions as an antidepressant. .alpha.-Lipoic acid and L-carnitine act as hypolipemic agents. The formulations synergistically improve muscle strength and efficiency in patients with muscular dystrophy or atrophy without side effects. Thus,				
a	medicinal tea contained creatine pyruvate 5000, carnitine 500, taurine 500, choline 500, .alpha.-lipoic acid 500, St. John's wort ext. (contg. 0.3 wt.% hypericin) 300, and sucrose 200 mg.				
ST	muscular dystrophy creatine neurotransmitter lipoate; atrophy muscular carnitine coenzyme Q10; choline muscular dystrophy				
IT	Muscle, disease Muscular dystrophy St.-John's-wort (Hypericum perforatum) (creatine-contg. formulations)				
IT	Neurotransmitters RL: BAC (Biological activity or effector, except adverse); FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (creatine-contg. formulations)				
IT	Drug interactions (synergistic; creatine-contg. formulations)				
IT	57-00-1, Creatine 60-18-4, L-Tyrosine, biological studies 62-49-7 107-35-7, Taurine 303-98-0, Coenzyme Q10 541-15-1, L-Carnitine 548-04-9, Hypericin 1200-22-2, .alpha.-Lipoic acid 4350-09-8 6645-46-1, L-Carnitine hydrochloride 36687-82-8, L-Carnitine tartrate 208535-04-0 220349-64-4, L-Carnitine fumarate, biological studies				

253786-77-5, biological studies

RL: BAC (Biological activity or effector, except adverse); FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (creatine-contg. formulations)

=> d 91:208066 all

ANSWER 1 CAPLUS COPYRIGHT 2001 ACS

AN 1979:608066 CAPLUS

DN 91:208066

TI Skeletal muscle enzyme activities in female subjects of various ages

AU Haralambie, G.

CS Abt. Leist. Sportmed., Med. Universitaetsklin., Freiburg/Br., Fed. Rep. Ger.

SO Bull. Eur. Physiopathol. Respir. (1979), 15(2), 259-68

CODEN: BEPRDY; ISSN: 0395-3890

DT Journal

LA English

CC 13-1 (Mammalian Biochemistry)

AB Sixteen enzymes of energy metab. were detd. in several muscles of female subjects of various ages, including adults, adolescents, and puberal subjects (age 11-14). The distribution of enzyme activities in a given muscle of a homogeneous group of subjects was Gaussian. Higher activities

of various enzymes in males as compared to females, as reported in the literature, were not the rule, and the different muscles studied showed variable characteristics in this respect. Higher activities of certain oxidative enzymes (e.g., fumarase and isocitrate dehydrogenase) were

found

in musculus vastus lateralis of the quadriceps muscle of 11-14-yr-old girls as compared to adult males and females.

ST enzyme muscle sex development; puberty enzyme muscle female

IT Development

Puberty

(energy-metab. enzymes of muscle of female in relation to)

IT Sex

(energy-metabolizing enzymes of muscle in relation to)

IT Muscle, composition

(enzymes of, of female, development in relation to)

IT Enzymes

RL: BIOL (Biological study)

(of energy metab., of muscle of female, development in relation to)

IT 9000-86-6 9000-97-9 9001-15-4 9001-18-7 9001-41-6 9001-59-6

9001-60-9 9001-64-3 9001-83-6 9014-08-8 9027-96-7 9028-48-2

9029-12-3 9029-90-7 9032-62-6 9032-88-6

RL: BIOL (Biological study)

(of muscle, of female, development in relation to)

=> d 82:153249 all

ANSWER 1 CAPLUS COPYRIGHT 2001 ACS

AN 1975:153249 CAPLUS

DN 82:153249

TI Arterial enzymes and their relation to atherosclerosis in pigeons

AU Zemlenyi, Tibor; Rosenstein, Alan J.

CS Sch. Med., Univ. South. California, Los Angeles, Calif., USA

SO Exp. Mol. Pathol. (1975), 22(2), 225-41

CODEN: EXMPA6

DT Journal

LA English
 CC 14-3 (Mammalian Pathological Biochemistry)
 AB Comparison of metabolic processes between the atherosclerosis-resistant Show Racer (R) and susceptible White Carnsau (S) pigeon strains was used for study of the factors which may predispose to atherosclerosis. In 4-6-year-old pigeons, the activity of lipoamide dehydrogenase and malate dehydrogenase was significantly lower in S than R arteries. The differences were not the result of aging or atherosclerosis, because they were also detected in arteries of young pigeons. Furthermore, the arteries of the young pigeons revealed a significantly higher activity of phosphofructokinase and aldolase in the arteries as compared with R arteries. The differences between the 2 strains are apparently inherited.

The low activity of lipoamide and malate dehydrogenases may slow the Krebs cycle and lead to low citrate and ATP prodn. The latter factor is an essential part of the feedback control adjustments that regulate the efficiency of glycolysis via phosphofructokinase. Increased dependence of the S arteries on glycolysis appears to facilitate the development of atherosclerosis in these birds, and the mechanism may be similar to the mechanism by which tissue hypoxia induces lipid accumulation and connective tissue alterations in the arterial wall. Higher activities in female than male arteries of phosphofructokinase, aldolase, isocitrate dehydrogenase, glycerokinase, ATPase and creatine phosphokinase were also obsd.

ST atherosclerosis artery enzyme sex; lipoamide dehydrogenase artery atherosclerosis; malate dehydrogenase artery atherosclerosis
 IT Atherosclerosis
 (enzymes of artery in, of pigeon)
 IT Pigeon
 (enzymes of artery of, in atherosclerosis)
 IT Artery, composition
 (enzymes of, of pigeon in atherosclerosis)
 IT 9001-18-7 9001-64-3 9001-80-3 9024-52-6
 RL: BIOL (Biological study)
 (of pigeon artery, in atherosclerosis)

=> d his

(FILE 'HOME' ENTERED AT 13:20:09 ON 12 JUN 2001)

FILE 'REGISTRY' ENTERED AT 13:20:16 ON 12 JUN 2001

L1 61 S LIPOIC ACID
 L2 0 S THIOACTIC ACID
 L3 15 S THIOCTIC ACID

FILE 'CAPLUS' ENTERED AT 13:21:08 ON 12 JUN 2001

L4 3087 S L1
 L5 1672 S L3
 L6 3177 S L4 OR L5

=> e diet

E1 1 DIESULFURIZATION/BI
 E2 3 DIESWELL/BI
 E3 148893 --> DIET/BI
 E4 2 DIET1/BI
 E5 1 DIET3N/BI
 E6 1 DIET95/BI
 E7 25 DIETA/BI

E8	1	DIETABLY/BI
E9	2	DIETADIONE/BI
E10	1	DIETAERY/BI
E11	2	DIETAL/BI
E12	1	DIETALONE/BI

=> e endurance

E1	1	ENDURACNE/BI
E2	1	ENDURAMIDE/BI
E3	8531 -->	ENDURANCE/BI
E4	79	ENDURANCES/BI
E5	1	ENDURANFCE/BI
E6	2	ENDURANT/BI
E7	2	ENDURATION/BI
E8	1	ENDURBURY/BI
E9	1	ENDURCIDIN/BI
E10	458	ENDURE/BI
E11	457	ENDURED/BI
E12	3	ENDURENCE/BI

=> s e3

L7 8531 ENDURANCE/BI

=> s 16 and 17

L8 2 L6 AND L7

=> d 18 1-2

L8 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2001 ACS
 AN 1999:492216 CAPLUS
 DN 131:242378
 TI Glutathione homeostasis in response to exercise training and nutritional supplements
 AU Sen, Chandan K.
 CS Biological Technologies Section, Environmental Energies Technologies Division, Lawrence Berkeley National Laboratory, University of California at Berkeley, Berkeley, CA, 94720, USA
 SO Mol. Cell. Biochem. (1999), 196(1&2), 31-42
 CODEN: MCBIB8; ISSN: 0300-8177
 PB Kluwer Academic Publishers
 DT Journal; General Review
 LA English
 RE.CNT 99
 RE
 (1) Akira, S; Faseb J 1990, V4, P2860 CAPLUS
 (2) Atalay, M; Acta Physiol Scand 1996, V158, P129 CAPLUS
 (3) Atalay, M; Acta Physiol Scand 1997, V161, P195 CAPLUS
 (4) Atalay, M; Eur J Appl Physiol 1996, V74, P342 CAPLUS
 (5) Aw, T; Chem Biol Interact 1991, V80, P89 CAPLUS
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2001 ACS
 AN 1998:699677 CAPLUS
 DN 130:37674
 TI Skeletal muscle and liver lipoyllysine content in response to exercise, training and dietary .alpha.-lipoic acid supplementation
 AU Khanna, Savita; Atalay, Mustafa; Lodge, John K.; Laaksonen, David E.; Roy, Sashwati; Hanninen, Osmo; Packer, Lester; Sen, Chandan K.

CS Department of Physiology, University of Kuopio, Kuopio, 70211, Finland
 SO Biochem. Mol. Biol. Int. (1998), 46(2), 297-306
 CODEN: BMBIES; ISSN: 1039-9712
 PB Academic Press
 DT Journal
 LA English
 RE.CNT 53
 RE
 (1) Ardies, C; Life Sci 1987, V40, P1053 CAPLUS
 (2) Barakat, H; Biochem J 1982, V208, P419 CAPLUS
 (4) Bielecki, J; Acta Physiol Pol 1988, V39, P421 CAPLUS
 (5) Biewenga, G; Arch Biochem Biophys 1994, V312, P114 CAPLUS
 (6) Biewenga, G; Gen Pharmacol 1997, V29, P315 CAPLUS
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d 18 2 all

L8 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2001 ACS
 AN 1998:699677 CAPLUS
 DN 130:37674
 TI Skeletal muscle and liver lipoyllysine content in response to exercise,
 training and dietary .alpha.-lipoic acid supplementation
 AU Khanna, Savita; Atalay, Mustafa; Lodge, John K.; Laaksonen, David E.;
 Roy,
 Sashwati; Hanninen, Osmo; Packer, Lester; Sen, Chandan K.
 CS Department of Physiology, University of Kuopio, Kuopio, 70211, Finland
 SO Biochem. Mol. Biol. Int. (1998), 46(2), 297-306
 CODEN: BMBIES; ISSN: 1039-9712
 PB Academic Press
 DT Journal
 LA English
 CC 18-2 (Animal Nutrition)
 AB In human cells, .alpha.-lipoic acid (LA) is present in a lipoyllysine
 form
 bound in mitochondrial proteins that play a central role in oxidative
 metab. The effects of oral LA supplementation, single-bout strenuous
 exercise, and **endurance** exercise training on the lipoyllysine
 content in skeletal muscle and liver tissues were studied in rats.
 Incorporation of the lipoyl moiety into tissue proteins was not increased
 by increased dietary intake of LA. **Endurance** exercise training
 markedly increased the lipoyllysine content in the liver at rest. A bout
 of exhaustive exercise also increased the hepatic lipoyllysine content.
 A
 significant interaction of exhaustive exercise and training in the
 increase of tissue lipoyllysine content was evident. In the vastus
 lateralis skeletal muscle, the training did not influence the tissue
 lipoyllysine content, but a single bout of exhaustive exercise clearly
 increased the lipoyllysine level. Comparison of data on tissue
 lipoyllysine and free or loosely-bound LA showed lack of assocn. between
 these 2 parameters. The tightly protein-bound lipoyllysine pool in
 tissues appeared to be independent of the loosely-bound or free LA pool
 in
 the tissue. (c) 1998 Academic Press.
 ST nutrition lipoate muscle liver lipoyllysine exercise training
 IT Exercise
 Liver
 Muscle
 Nutrition (animal)
 (dietary .alpha.-lipoic acid, exercise and training effects on protein
 lipoyllysine in skeletal muscles and liver of rats)
 IT 1676-89-7

RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
 (dietary .alpha.-lipoic acid, exercise and training effects on protein
 lipoyllysine in skeletal muscles and liver of rats)

IT 1200-22-2, .alpha. Lipoic acid
 RL: BPR (Biological process); FFD (Food or feed use); BIOL (Biological
 study); PROC (Process); USES (Uses)
 (dietary .alpha.-lipoic acid, exercise and training effects on protein
 lipoyllysine in skeletal muscles and liver of rats)

RE.CNT 53
 RE

- (1) Ardies, C; Life Sci 1987, V40, P1053 CAPLUS
- (2) Barakat, H; Biochem J 1982, V208, P419 CAPLUS
- (3) Barbiroli, B; J Neurol 1995, V242, P472 MEDLINE
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- (5) Biewenga, G; Arch Biochem Biophys 1994, V312, P114 CAPLUS
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=> e exercise

E1	3	EXERCIS/BI
E2	2	EXERCISABLE/BI
E3	28693 -->	EXERCISE/BI
E4	1	EXERCISE1/BI
E5	1	EXERCISEA/BI
E6	4464	EXERCISED/BI
E7	1	EXERCISEE/BI
E8	1	EXERCISEHAVE/BI
E9	1	EXERCISEINDUCED/BI
E10	1	EXERCISEPROMOTED/BI
E11	21	EXERCISER/BI
E12	48	EXERCISERS/BI

=> s e3

L9 28693 EXERCISE/BI

=> d l6 and l9

L9 IS NOT VALID HERE

For an explanation, enter "HELP DISPLAY".

=> s l6 and l9

L10 7 L6 AND L9

=> d l10 1-7

L10 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2001 ACS

AN 2001:300444 CAPLUS

DN 134:325768

TI Food supplement for increasing lean mass and strength

IN Gardiner, Paul T.; Woodgate, Derek E.; Gilbert, Mark S.; Thoburn, Robert W.

PA Muscletech Research and Development Inc., Can.

SO PCT Int. Appl., 22 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	---	----	-----	-----
PI	WO 2001028356	A2	20010426	WO 2000-CA1207	20001018
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
PRAI	US 1999-420439	A	19991018		
	US 2000-482688	A2	20000113		

L10 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2001 ACS

AN 2000:558236 CAPLUS

DN 133:251584
 TI Thiol homeostasis and supplements in physical **exercise**
 AU Sen, Chandan K.; Packer, Lester
 CS Departments of Surgery and Molecular & Cellular Biochemistry, Ohio State University Medical Center, Columbus, OH, 43210-1252, USA
 SO Am. J. Clin. Nutr. (2000), 72(2, Suppl.), 653S-669S
 CODEN: AJCNAC; ISSN: 0002-9165
 PB American Society for Clinical Nutrition
 DT Journal; General Review
 LA English
 RE.CNT 158
 RE
 (6) Atalay, M; Acta Physiol Scand 1996, V158, P129 CAPLUS
 (7) Atalay, M; Eur J Appl Physiol 1996, V74, P342 CAPLUS
 (8) Barclay, J; Can J Physiol Pharmacol 1991, V69, P279 CAPLUS
 (9) Bast, A; Antioxidants in therapy and preventive medicine 1990, P111 CAPLUS
 (10) Brady, P; J Nutr 1979, V109, P1103 CAPLUS
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2001 ACS
 AN 1999:492216 CAPLUS
 DN 131:242378
 TI Glutathione homeostasis in response to **exercise** training and nutritional supplements
 AU Sen, Chandan K.
 CS Biological Technologies Section, Environmental Energies Technologies Division, Lawrence Berkeley National Laboratory, University of California at Berkeley, Berkeley, CA, 94720, USA
 SO Mol. Cell. Biochem. (1999), 196(1&2), 31-42
 CODEN: MCBIB8; ISSN: 0300-8177
 PB Kluwer Academic Publishers
 DT Journal; General Review
 LA English
 RE.CNT 99
 RE
 (1) Akira, S; Faseb J 1990, V4, P2860 CAPLUS
 (2) Atalay, M; Acta Physiol Scand 1996, V158, P129 CAPLUS
 (3) Atalay, M; Acta Physiol Scand 1997, V161, P195 CAPLUS
 (4) Atalay, M; Eur J Appl Physiol 1996, V74, P342 CAPLUS
 (5) Aw, T; Chem Biol Interact 1991, V80, P89 CAPLUS
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2001 ACS
 AN 1999:285633 CAPLUS
 DN 131:101624
 TI .alpha.-Lipoic acid supplementation: tissue glutathione homeostasis at rest and after **exercise**
 AU Khanna, Savita; Atalay, Mustafa; Laaksonen, David E.; Gul, Mustafa; Roy, Sashwati; Sen, Chandan K.
 CS Department of Physiology, Faculty of Medicine, University of Kuopio, Kuopio, 70211, Finland
 SO J. Appl. Physiol. (1999), 86(4), 1191-1196
 CODEN: JAPHEV; ISSN: 8750-7587
 PB American Physiological Society
 DT Journal
 LA English
 RE.CNT 41
 RE
 (2) Bannai, S; J Biol Chem 1986, V261, P2256 CAPLUS
 (3) Bannai, S; J Membr Biol 1986, V89, P1 CAPLUS
 (4) Biewenga, G; Arch Biochem Biophys 1994, V312, P114 CAPLUS
 (5) Biewenga, G; Gen Pharmacol 1997, V29, P315 CAPLUS
 (7) Bradford, M; Anal Biochem 1976, V72, P248 CAPLUS

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2001 ACS
 AN 1998:699677 CAPLUS
 DN 130:37674
 TI Skeletal muscle and liver lipoyllysine content in response to
exercise, training and dietary .alpha.-lipoic acid supplementation
 AU Khanna, Savita; Atalay, Mustafa; Lodge, John K.; Laaksonen, David E.;
 Roy,
 Sashwati; Hanninen, Osmo; Packer, Lester; Sen, Chandan K.
 CS Department of Physiology, University of Kuopio, Kuopio, 70211, Finland
 SO Biochem. Mol. Biol. Int. (1998), 46(2), 297-306
 CODEN: BMBIES; ISSN: 1039-9712
 PB Academic Press
 DT Journal
 LA English
 RE.CNT 53
 RE
 (1) Ardies, C; Life Sci 1987, V40, P1053 CAPLUS
 (2) Barakat, H; Biochem J 1982, V208, P419 CAPLUS
 (4) Bielecki, J; Acta Physiol Pol 1988, V39, P421 CAPLUS
 (5) Biewenga, G; Arch Biochem Biophys 1994, V312, P114 CAPLUS
 (6) Biewenga, G; Gen Pharmacol 1997, V29, P315 CAPLUS
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2001 ACS
 AN 1997:713407 CAPLUS
 DN 128:259
 TI Thioctic acid stimulates muscle ATP production in patients with type II
 diabetes and diabetic polyneuropathy
 AU Tritschler, Hans J.; Barbiroli, Bruno; Medori, R.; Iotti, S.; Lodi, R.;
 Zaniol, P.
 CS Medical Department, ASTA Medica AG, Frankfurt, Germany
 SO Antioxid. Health Dis. (1997), 6(Lipoic Acid in Health and Disease),
 393-406
 CODEN: AHDIEQ
 PB Dekker
 DT Journal
 LA English

L10 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2001 ACS
 AN 1978:131042 CAPLUS
 DN 88:131042
 TI Effect of lipoic acid on muscle strength and the working capacity of
 animals
 AU Kolla, V. E.; Galetskii, G. I.; Ivanova, R. R.; Suslova, O. I.; Solomin,
 V. G.
 CS USSR
 SO Izuch. Biol. Deistviya Prod. Org. Sint. Prir. Soedin. (1976), 116-21.
 Editor(s): Pidemskii, E. L. Publisher: Permsk. Gos. Univ., Perm, USSR.
 CODEN: 37LRAS
 DT Conference
 LA Russian

=> d 110 7 6 all

L10 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2001 ACS
 AN 1978:131042 CAPLUS
 DN 88:131042
 TI Effect of lipoic acid on muscle strength and the working capacity of
 animals

AU Kolla, V. E.; Galetskii, G. I.; Ivanova, R. R.; Suslova, O. I.; Solomin, V. G.
 CS USSR
 SO Izuch. Biol. Deistviya Prod. Org. Sint. Prir. Soedin. (1976), 116-21.
 Editor(s): Pidemskii, E. L. Publisher: Permsk. Gos. Univ., Perm, USSR.
 CODEN: 37LRAS
 DT Conference
 LA Russian
 CC 1-5 (Pharmacodynamics)
 AB Lipoic acid [57828-26-9] (10-40 mg/kg) injected into mice increased work capacity (in a swimming test) and muscle strength. Lipoic acid prevented the effect of depolarizing and antidepolarizing muscle relaxant in healthy mice and in mice with toxic hepatitis.
 ST lipoate muscle strength **exercise**
 IT Muscle relaxants and Spasmolytics
 (antagonist, lipoate)
 IT **Exercise**
 (lipoic acid effect on)
 IT Muscle
 (strength of, lipoic acid enhancement of)
 IT **57828-26-9**
 RL: BIOL (Biological study)
 (muscle strength and work capacity enhancement by)

L10 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2001 ACS
 AN 1997:713407 CAPLUS
 DN 128:259
 TI Thioctic acid stimulates muscle ATP production in patients with type II diabetes and diabetic polyneuropathy
 AU Tritschler, Hans J.; Barbiroli, Bruno; Medori, R.; Iotti, S.; Lodi, R.; Zaniol, P.
 CS Medical Department, ASTA Medica AG, Frankfurt, Germany
 SO Antioxid. Health Dis. (1997), 6(Lipoic Acid in Health and Disease), 393-406
 CODEN: AHDIEQ
 PB Dekker
 DT Journal
 LA English
 CC 1-10 (Pharmacology)
 AB We assessed in vivo, by phosphorus magnetic resonance spectroscopy, the effect of thioctic acid treatment on energy metab., rate of ATP prodn., and ion transport in the gastrocnemius muscles of patients affected with long-lasting type II diabetes and sensorimotor polyneuropathy. Patients were studied at rest, during in-magnet **exercise**, and during postexercise recovery prior to and after 40 days of treatment with oral lipoate. Lipoate treatment resulted in different degrees of symptomatic improvement in 80% of patients, no improvement in 10%, and worsening in 10%. At rest we found a low phosphorylation potential in 50% of patients,
 while 50% were within the normal range. Lipoate treatment did not affect magnetic resonance spectroscopy (MRS) data on resting muscle in any patient. All patients showed a deficient ability to perform work for comparable levels of metabolic activation. After thioctic acid treatment,
 30% showed an amelioration of muscle performance during work for comparable levels of metabolic activation. All patients showed a defective recovery of PCr, Pi, and pH, thus showing a deficit of mitochondrial respiration and ion transport. Treatment with thioctic acid
 resulted in an increased rate of PCr recovery in 50% of patients, increased rate of Pi recovery in 40%, and increased rate of pH recovery in
 70%. Our in vivo findings support the hypothesis that the pos. effect of

lipoprotein treatment on mitochondrial oxidn., rate of ATP prodn., and ion transport is mainly due to increased availability of glucose inside the cell.

ST thioctic acid diabetes therapy

IT Antidiabetic agents
 Diabetic neuropathy
 Energy metabolism (animal)
 Gastrocnemius muscle
 Ion transport (biological)
 Mitochondrial respiration
 Muscle
 Non-insulin-dependent diabetes mellitus
 Phosphorylation (biological)
 (thioctic acid stimulates muscle ATP prodn. and glucose utilization in patients with type II diabetes and diabetic polyneuropathy)

IT 1077-28-7, Thioctic acid
 RL: BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (thioctic acid stimulates muscle ATP prodn. and glucose utilization in patients with type II diabetes and diabetic polyneuropathy)

IT 56-65-5, 5'-ATP, biological studies
 RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
 (thioctic acid stimulates muscle ATP prodn. and glucose utilization in patients with type II diabetes and diabetic polyneuropathy)

IT 50-99-7, D-Glucose, biological studies
 RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
 (utilization; thioctic acid stimulates muscle ATP prodn. and glucose utilization in patients with type II diabetes and diabetic polyneuropathy)

=> d is

'IS' IS NOT A VALID FORMAT FOR FILE 'CAPLUS'

The following are valid formats:

ABS ----- GI and AB

ALL ----- BIB, AB, IND, RE

APPS ----- AI, PRAI

BIB ----- AN, plus Bibliographic Data and PI table (default)

CAN ----- List of CA abstract numbers without answer numbers

CBIB ----- AN, plus Compressed Bibliographic Data

DALL ----- ALL, delimited (end of each field identified)

DMAX ----- MAX, delimited for post-processing

FAM ----- AN, PI and PRAI in table, plus Patent Family data

FBIB ----- AN, BIB, plus Patent FAM

IND ----- Indexing data

IPC ----- International Patent Classifications

MAX ----- ALL, plus Patent FAM, RE

PATS ----- PI, SO

SAM ----- CC, SX, TI, ST, IT

SCAN ----- CC, SX, TI, ST, IT (random display, no answer numbers;
 SCAN must be entered on the same line as the DISPLAY,
 e.g., D SCAN or DISPLAY SCAN)

STD ----- BIB, IPC, and NCL

IABS ----- ABS, indented with text labels

IALL ----- ALL, indented with text labels

IBIB ----- BIB, indented with text labels

IMAX ----- MAX, indented with text labels

ISTD ----- STD, indented with text labels

OBIB ----- AN, plus Bibliographic Data (original)
OIBIB ----- OBIB, indented with text labels

SBIB ----- BIB, no citations
SIBIB ----- IBIB, no citations

HIT ----- Fields containing hit terms
HITIND ----- IC, ICA, ICI, NCL, CC and index field (ST and IT)
 containing hit terms
HITRN ----- HIT RN and its text modification
HITSTR ----- HIT RN, its text modification, its CA index name, and
 its structure diagram
FHITSTR ----- First HIT RN, its text modification, its CA index name, and
 its structure diagram
KWIC ----- Hit term plus 20 words on either side
OCC ----- Number of occurrence of hit term and field in which it occurs

To display a particular field or fields, enter the display field codes. For a list of the display field codes, enter HELP DFIELDS at an arrow prompt (=>). Examples of formats include: TI; TI,AU; BIB,ST; TI,IND; TI,SO. You may specify the format fields in any order and the information will be displayed in the same order as the format specification.

All of the formats (except for SAM, SCAN, HIT, HITIND, HITRN, HITSTR, FHITSTR, KWIC, and OCC) may be used with DISPLAY ACC to view a specified Accession Number.

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'HIS' IS NOT A VALID FORMAT FOR FILE 'CAPLUS'

The following are valid formats:

ABS ----- GI and AB
ALL ----- BIB, AB, IND, RE
APPS ----- AI, PRAI
BIB ----- AN, plus Bibliographic Data and PI table (default)
CAN ----- List of CA abstract numbers without answer numbers
CBIB ----- AN, plus Compressed Bibliographic Data
DALL ----- ALL, delimited (end of each field identified)
DMAX ----- MAX, delimited for post-processing
FAM ----- AN, PI and PRAI in table, plus Patent Family data
FBIB ----- AN, BIB, plus Patent FAM
IND ----- Indexing data
IPC ----- International Patent Classifications
MAX ----- ALL, plus Patent FAM, RE
PATS ----- PI, SO
SAM ----- CC, SX, TI, ST, IT
SCAN ----- CC, SX, TI, ST, IT (random display, no answer numbers;
 SCAN must be entered on the same line as the DISPLAY,
 e.g., D SCAN or DISPLAY SCAN)
STD ----- BIB, IPC, and NCL

IABS ----- ABS, indented with text labels
IALL ----- ALL, indented with text labels
IBIB ----- BIB, indented with text labels
IMAX ----- MAX, indented with text labels
ISTD ----- STD, indented with text labels

OBIB ----- AN, plus Bibliographic Data (original)
OIBIB ----- OBIB, indented with text labels

SBIB ----- BIB, no citations

SIBIB ----- IBIB, no citations

HIT ----- Fields containing hit terms

HITIND ----- IC, ICA, ICI, NCL, CC and index field (ST and IT)
containing hit terms

HITRN ----- HIT RN and its text modification

HITSTR ----- HIT RN, its text modification, its CA index name, and
its structure diagram

FHITSTR ----- First HIT RN, its text modification, its CA index name, and
its structure diagram

KWIC ----- Hit term plus 20 words on either side

OCC ----- Number of occurrence of hit term and field in which it occurs

To display a particular field or fields, enter the display field codes. For a list of the display field codes, enter HELP DFIELDS at an arrow prompt (=>). Examples of formats include: TI; TI,AU; BIB,ST; TI,IND; TI,SO. You may specify the format fields in any order and the information will be displayed in the same order as the format specification.

All of the formats (except for SAM, SCAN, HIT, HITIND, HITRN, HITSTR, FHITSTR, KWIC, and OCC) may be used with DISPLAY ACC to view a specified Accession Number.

ENTER DISPLAY FORMAT (BIB):bib

L10 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2001 ACS

AN 2001:300444 CAPLUS

DN 134:325768

TI Food supplement for increasing lean mass and strength

IN Gardiner, Paul T.; Woodgate, Derek E.; Gilbert, Mark S.; Thoburn, Robert W.

PA Muscletech Research and Development Inc., Can.

SO PCT Int. Appl., 22 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	---	-----	-----	-----
PI	WO 2001028356	A2	20010426	WO 2000-CA1207	20001018
	W:				
	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,				
	CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,				
	HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,				
	LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,				
	SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,				
	YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW:				
	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,				
	DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,				
	CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
PRAI	US 1999-420439	A	19991018		
	US 2000-482688	A2	20000113		

=> d his

(FILE 'HOME' ENTERED AT 13:20:09 ON 12 JUN 2001)

FILE 'REGISTRY' ENTERED AT 13:20:16 ON 12 JUN 2001

L1 61 S LIPOIC ACID

L2 0 S THIOACTIC ACID

L3 15 S THIOCTIC ACID

L4 3087 S L1
 L5 1672 S L3
 L6 3177 S L4 OR L5
 E DIET
 E ENDURANCE
 L7 8531 S E3
 L8 2 S L6 AND L7
 E EXERCISE
 L9 28693 S E3
 L10 7 S L6 AND L9

=> e strength

E1 5 STRENGTHENING/BI
 E2 3 STRENGTH/BI
 E3 646472 --> STRENGTH/BI
 E4 1 STRENGTH0/BI
 E5 1 STRENGTH1034/BI
 E6 1 STRENGTH15/BI
 E7 1 STRENGTH186/BI
 E8 1 STRENGTH29/BI
 E9 1 STRENGTH3/BI
 E10 1 STRENGTH5/BI
 E11 1 STRENGTH75/BI
 E12 1 STRENGTH98/BI

=> s e3

L11 646472 STRENGTH/BI

=> e muscle

E1 1 MUSCULATUS/BI
 E2 1 MUSCULUS/BI
 E3 31 --> MUSCULE/BI
 E4 5 MUSCLES/BI
 E5 82 MUSCULI/BI
 E6 4 MUSCULIN/BI
 E7 1 MUSCULINE/BI
 E8 2 MUSCULINIZATION/BI
 E9 17 MUSCULINUS/BI
 E10 4 MUSCULIS/BI
 E11 5 MUSCULISTA/BI
 E12 20 MUSCULIUM/BI

=> e muscle

E1 1 MUSCLATURE/BI
 E2 2 MUSCLC/BI
 E3 234127 --> MUSCLE/BI
 E4 3 MUSCLE1/BI
 E5 1 MUSCLE8/BI
 E6 11 MUSCLEACHE/BI
 E7 1 MUSCLEAT/BI
 E8 1 MUSCLEB/BI
 E9 6 MUSCLEBLIND/BI
 E10 2 MUSCLECELL/BI
 E11 1 MUSCLECELLS/BI
 E12 1 MUSCLECONTRACTING/BI

=> s e3

L12 234127 MUSCLE/BI

=> s l11 and l12

L13 3633 L11 AND L12

=> s l13 and l6

L14 6 L13 AND L6

=> d l14 1-6

L14 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2001 ACS

AN 2001:300444 CAPLUS

DN 134:325768

TI Food supplement for increasing lean mass and **strength**

IN Gardiner, Paul T.; Woodgate, Derek E.; Gilbert, Mark S.; Thoburn, Robert W.

PA Muscletech Research and Development Inc., Can.

SO PCT Int. Appl., 22 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001028356	A2	20010426	WO 2000-CA1207	20001018
	W:				
				AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM	
	RW:			GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG	
PRAI	US 1999-420439	A	19991018		
	US 2000-482688	A2	20000113		

L14 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2001 ACS

AN 2000:144680 CAPLUS

DN 132:150928

TI Food supplements comprising lipoic acid and creatine and methods for their use

IN Gardiner, Paul T.

PA Muscletech Research and Development Inc., Can.

SO PCT Int. Appl., 16 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000010408	A1	20000302	WO 1999-CA772	19990820
	W:				
				AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM	

RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK,
 ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG,
 CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
 US 6136339 A 20001024 US 1998-138136 19980821
 AU 9953666 A1 20000314 AU 1999-53666 19990820
 EP 1093337 A1 20010425 EP 1999-939286 19990820
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO
 PRAI CA 1998-2246014 A 19980821
 US 1998-138136 A 19980821
 WO 1999-CA772 W 19990820

RE.CNT 8

RE

(1) Anon; <http://store.yahoo.com/athlethengold/inlemandgrap.html> 1999
 (2) Anon; url:<http://physicalenhancement.com/supp/extreme4.html> 1999
 (3) Anon; url:<http://store.yahoo.com/vitanet/musteccel4po.html> 1999
 (6) Asta Medica AG; EP 0702953 A 1996 CAPLUS
 (7) Asta Medica AG; EP 0812590 A 1997 CAPLUS
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2001 ACS

AN 2000:33527 CAPLUS

DN 132:83671

TI Creatine-containing formulations

IN Seyerl, Joachim

PA SKW Trostberg A.-G., Germany

SO Ger. Offen., 6 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	---	-----	-----	-----
PI	DE 19830768	A1	20000113	DE 1998-19830768	19980709

L14 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2001 ACS

AN 1986:4774 CAPLUS

DN 104:4774

TI Lipoamide dehydrogenase, citrate synthase, and .beta.-hydroxyacyl-CoA-
 dehydrogenase of skeletal **muscle**. IX. Influence of the rate of
 thawing on their activity and subcellular distribution in quick and
 slowly

frozen bovine **muscle**

AU Gottesmann, Peter; Hamm, Reiner

CS Inst. Chem. Phys., Bundesanst. Fleischforsch., Kulmbach, D-8650, Fed.

Rep.

Ger.

SO Z. Lebensm.-Unters. Forsch. (1985), 181(4), 293-8

CODEN: ZLUFAR; ISSN: 0044-3026

DT Journal

LA German

L14 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2001 ACS

AN 1984:509176 CAPLUS

DN 101:109176

TI Lipoamide dehydrogenase, citrate synthase, and
 .beta.-hydroxyacyl-coenzyme

A-dehydrogenase of skeletal **muscle**. II. Compartmentation of the
 enzymes in the **muscle** mitochondrion and evaluation of the
 relative **strength** of binding

AU Gottesmann, Peter; Hamm, Reiner

CS Inst. Chem. Phys., Bundesanst. Fleischforsch., Kulmbach, D-8650, Fed.

Rep.

Ger.
 SQ Z. Lebensm.-Unters. Forsch. (1984), 178(5), 371-5
 CODEN: ZLUFAR; ISSN: 0044-3026
 DT Journal
 LA German

L14 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2001 ACS
 AN 1978:131042 CAPLUS
 DN 88:131042
 TI Effect of lipoic acid on **muscle strength** and the
 working capacity of animals
 AU Kolla, V. E.; Galetskii, G. I.; Ivanova, R. R.; Suslova, O. I.; Solomin,
 V. G.
 CS USSR
 SO Izuch. Biol. Deistviya Prod. Org. Sint. Prir. Soedin. (1976), 116-21.
 Editor(s): Pidemskii, E. L. Publisher: Permsk. Gos. Univ., Perm, USSR.
 CODEN: 37LRAS
 DT Conference
 LA Russian

=> d 114 5 all

L14 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2001 ACS
 AN 1984:509176 CAPLUS
 DN 101:109176
 TI Lipoamide dehydrogenase, citrate synthase, and
 .beta.-hydroxyacyl-coenzyme
 A-dehydrogenase of skeletal **muscle**. II. Compartmentation of the
 enzymes in the **muscle** mitochondrion and evaluation of the
 relative **strength** of binding
 AU Gottesmann, Peter; Hamm, Reiner
 CS Inst. Chem. Phys., Bundesanst. Fleischforsch., Kulmbach, D-8650, Fed.
 Rep.
 Ger.
 SO Z. Lebensm.-Unters. Forsch. (1984), 178(5), 371-5
 CODEN: ZLUFAR; ISSN: 0044-3026
 DT Journal
 LA German
 CC 17-7 (Food and Feed Chemistry)
 Section cross-reference(s): 13
 AB The compartmentation and the relative **strength** of binding of the
 enzymes lipoamide dehydrogenase (LIPDH) [9001-18-7], citrate
 synthase (CS) [9027-96-7], and .beta.-hydroxyacyl-CoA-dehydrogenase
 (HADH
 [9028-40-4] in mitochondria isolated from bovine **muscle** (M.
 sternomandibularis) were studied using the following methods:
 availability
 of the enzymes for protease before and after opening of the intracryst.
 space and after disintegration of the mitochondrial membranes; release of
 the enzymes after different treatments of the mitochondria:
 homogenization
 with phosphate buffer plus Triton X-100; suspension in water and
 sucrose-tris buffer with and without added digitonin; ultrasonic
 treatment; freezing and thawing. The 3 enzymes are bound to the inner
 surface of the inner membrane of the mitochondrion, and the binding
strength increases according to the series CS < HADH < LIPDH.
 ST beef mitochondria enzyme; dehydrogenase beef mitochondrion
 IT Enzymes
 RL: BIOL (Biological study)
 (of beef mitochondria, compartmentation and binding of)
 IT Mitochondria

(of beef, enzymes of, compartmentation and binding of)
IT Meat
(beef, mitochondrial enzymes of, compartmentation and binding of)
IT 9001-18-7 9027-96-7 9028-40-4
RL: BIOL (Biological study)
(of beef mitochondria, compartmentation and binding of)

=> e workout

E1	1	WORKOFF/BI
E2	2	WORKOP/BI
E3	33 -->	WORKOUT/BI
E4	9	WORKOUTS/BI
E5	237	WORKOVER/BI
E6	1	WORKOVERLOAD/BI
E7	38	WORKOVERS/BI
E8	2	WORKPANTS/BI
E9	2	WORKPART/BI
E10	2	WORKPARTS/BI
E11	1	WORKPEACE/BI
E12	1	WORKPHASES/BI

=> s e3 or e4

	33	WORKOUT/BI
	9	WORKOUTS/BI
L15	39	WORKOUT/BI OR WORKOUTS/BI

=> s l15 and l6

L16	0	L15 AND L6
-----	---	------------

=> e athlete

E1	3	ATHLESTATIN/BI
E2	109	ATHLET/BI
E3	967 -->	ATHLETE/BI
E4	2227	ATHLETES/BI
E5	2	ATHLETETS/BI
E6	2	ATHLETH/BI
E7	1	ATHLETIATRICES/BI
E8	751	ATHLETIC/BI
E9	2	ATHLETICA/BI
E10	9	ATHLETICALLY/BI
E11	4	ATHLETICISM/BI
E12	70	ATHLETICS/BI

=> e athletic

E1	2	ATHLETH/BI
E2	1	ATHLETIATRICES/BI
E3	751 -->	ATHLETIC/BI
E4	2	ATHLETICA/BI
E5	9	ATHLETICALLY/BI
E6	4	ATHLETICISM/BI
E7	70	ATHLETICS/BI
E8	1	ATHLETOID/BI
E9	7	ATHLETS/BI
E10	1	ATHLON/BI
E11	1	ATHLONE/BI
E12	1	ATHM0/BI

=> e athlete

E1 3 ATHLESTATIN/BI
E2 109 ATHLET/BI
E3 967 --> ATHLETE/BI
E4 2227 ATHLETES/BI
E5 2 ATHLETETS/BI
E6 2 ATHLETH/BI
E7 1 ATHLETIATRICES/BI
E8 751 ATHLETIC/BI
E9 2 ATHLETICA/BI
E10 9 ATHLETICALLY/BI
E11 4 ATHLETICISM/BI
E12 70 ATHLETICS/BI

=> s e3 or e4

967 ATHLETE/BI
2227 ATHLETES/BI
L17 2665 ATHLETE/BI OR ATHLETES/BI

=> s l17 and l6

L18 2 L17 AND L6

=> d l18 1-2

L18 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2001 ACS
AN 2001:300444 CAPLUS
DN 134:325768
TI Food supplement for increasing lean mass and strength
IN Gardiner, Paul T.; Woodgate, Derek E.; Gilbert, Mark S.; Thoburn, Robert W.
PA Muscletech Research and Development Inc., Can.
SO PCT Int. Appl., 22 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001028356	A2	20010426	WO 2000-CA1207	20001018
	W:				
	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW:				
	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
PRAI	US 1999-420439	A	19991018		
	US 2000-482688	A2	20000113		

L18 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2001 ACS
AN 2000:144680 CAPLUS
DN 132:150928
TI Food supplements comprising lipoic acid and creatine and methods for their use
IN Gardiner, Paul T.
PA Muscletech Research and Development Inc., Can.

SO PCT Int. Appl., 16 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000010408	A1	20000302	WO 1999-CA772	19990820
	W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
	US 6136339	A	20001024	US 1998-138136	19980821
	AU 9953666	A1	20000314	AU 1999-53666	19990820
	EP 1093337	A1	20010425	EP 1999-939286	19990820
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO			
PRAI	CA 1998-2246014	A	19980821		
	US 1998-138136	A	19980821		
	WO 1999-CA772	W	19990820		

RE.CNT 8

RE

- (1) Anon; <http://store.yahoo.com/athlethengold/inlemandgrap.html> 1999
 - (2) Anon; [url:http://physicalenhancement.com/supp/extreme4.html](http://physicalenhancement.com/supp/extreme4.html) 1999
 - (3) Anon; [url:http://store.yahoo.com/vitanet/musteccel4po.html](http://store.yahoo.com/vitanet/musteccel4po.html) 1999
 - (6) Asta Medica AG; EP 0702953 A 1996 CAPLUS
 - (7) Asta Medica AG; EP 0812590 A 1997 CAPLUS
- ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> e function

E1	1	FUNCTIONOINALITY/BI
E2	1	FUNCTIONOINS/BI
E3	1005980 -->	FUNCTION/BI
E4	3	FUNCTION1/BI
E5	2	FUNCTION2/BI
E6	1	FUNCTION4/BI
E7	1	FUNCTION5/BI
E8	1	FUNCTION6/BI
E9	1	FUNCTION7/BI
E10	11	FUNCTIONA/BI
E11	1	FUNCTIONAAL/BI
E12	1	FUNCTIONAALY/BI

=> s e3

L19 1005980 FUNCTION/BI

=> s l19 and l6

L20 269 L19 AND L6

=> d his

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L2 0 S THIOACTIC ACID
L3 15 S THIOCTIC ACID

FILE 'CAPLUS' ENTERED AT 13:21:08 ON 12 JUN 2001
L4 3087 S L1
L5 1672 S L3
L6 3177 S L4 OR L5
E DIET
E ENDURANCE
L7 8531 S E3
L8 2 S L6 AND L7
E EXERCISE
L9 28693 S E3
L10 7 S L6 AND L9
E STRENGTH
L11 646472 S E3
E MUSCULE
E MUSCLE
L12 234127 S E3
L13 3633 S L11 AND L12
L14 6 S L13 AND L6
E WORKOUT
L15 39 S E3 OR E4
L16 0 S L15 AND L6
E ATHLETE
E ATHLETIC
E ATHLETE
L17 2665 S E3 OR E4
L18 2 S L17 AND L6
E FUNCTION
L19 1005980 S E3
L20 269 S L19 AND L6

=> s l20 and muscle

234127 MUSCLE
L21 8 L20 AND MUSCLE

=> d l21 1-8

L21 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2001 ACS
AN 2000:604732 CAPLUS
DN 133:317516
TI Lipoic acid reduces ischemia-reperfusion injury in animal models
AU Freisleben, H.-J.
CS Pascasarjana-Fakultas Kedokteran, Faculty of Medicine, University of
Indonesia, Djakarta, 10430, Indonesia
SO Toxicology (2000), 148(2-3), 159-171.
CODEN: TXCYAC; ISSN: 0300-483X
PB Elsevier Science Ireland Ltd.
DT Journal
LA English
RE.CNT 59
RE

(1) Alger, J; Quart Rev Biophys 1984, V17, P83 CAPLUS
(2) Assadnazari, H; Arzneim Forsch/Drug Res 1993, V43, P425 CAPLUS
(3) Barbour, R; Biochemistry 1984, V23, P6053 CAPLUS
(6) Bittl, J; J Biol Chem 1985, V260, P3512 CAPLUS
(7) Brindle, K; Prog NMR Spectrosc 1988, V20, P257 CAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2001 ACS

AN 2000:33527 CAPLUS

DN 132:83671

TI Creatine-containing formulations

IN Seyerl, Joachim

PA SKW Trostberg A.-G., Germany

SO Ger. Offen., 6 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19830768	A1	20000113	DE 1998-19830768	19980709

L21 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2001 ACS

AN 1999:454274 CAPLUS

DN 131:97582

TI Recombinant cell lines for drug screening

IN Thigpen, Anice E.; Quaade, Christian; Clark, Samuel A.

PA Betagene, Inc., USA

SO PCT Int. Appl., 309 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9935495	A2	19990715	WO 1999-US551	19990111
	WO 9935495	A3	19991125		
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, US, US, US, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	WO 9935242	A1	19990715	WO 1999-US633	19990111
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, US, US, US, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 9921121	A1	19990726	AU 1999-21121	19990111
	AU 9921131	A1	19990726	AU 1999-21131	19990111
	EP 1047938	A2	20001102	EP 1999-901421	19990111
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
PRAI	US 1998-71193	P	19980112		
	US 1998-71209	P	19980112		
	US 1998-72556	P	19980112		
	US 1998-87821	P	19980603		
	US 1998-87848	P	19980603		
	WO 1999-US551	W	19990111		
	WO 1999-US633	W	19990111		

L21 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2001 ACS
 AN 1997:209236 CAPLUS
 DN 126:303321
 TI Flow cytometric detection of mitochondrial dysfunction in subpopulations of human mononuclear cells
 AU Kunz, Dagmar; Luley, Claus; Winkler, Kirstin; Lins, Hartmut; Kunz, Wolfram
 S.
 CS Institut für Klinische Chemie und Laboratoriumsdiagnostik, Universitätsklinikum Magdeburg, Magdeburg, D-39120, Germany
 SO Anal. Biochem. (1997), 246(2), 218-224
 CODEN: ANBCA2; ISSN: 0003-2697
 PB Academic
 DT Journal
 LA English

L21 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2001 ACS
 AN 1993:400543 CAPLUS
 DN 119:543
 TI Dihydrolipoic acid is protective against reperfusion injury
 AU Freisleben, H. J.; Beyersdorf, F.; Assadnazar, H.; Seewald; Simon, J.; Hanselmann, A.; Zimer, G.
 CS Gustav-Embsden-Zent. Biol. Chem., Johann Wolfgang Goethe-Univ., Frankfurt/Main, 6000, Germany
 SO Lipid-Soluble Antioxid. (1992), 515-34. Editor(s): Ong, Augustine S. H.; Packer, Lester. Publisher: Birkhaeuser, Basel, Switz.
 CODEN: 58QGAF
 DT Conference
 LA English

L21 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2001 ACS
 AN 1988:90884 CAPLUS
 DN 108:90884
 TI Structure **function** studies on the lipoate-acetyltransferase-component-X-core assembly of the ox heart pyruvate dehydrogenase complex
 AU Hodgson, Jeffery A.; De Marcucci, Olga G. L.; Lindsay, J. Gordon
 CS Dep. Biochem., Univ. Glasgow, Glasgow, G12 8QQ, UK
 SO Eur. J. Biochem. (1988), 171(3), 609-14
 CODEN: EJBCAI; ISSN: 0014-2956
 DT Journal
 LA English

L21 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2001 ACS
 AN 1983:14696 CAPLUS
 DN 98:14696
 TI The ratio of 3-hydroxyacyl-CoA dehydrogenase to lipoamide dehydrogenase activity in individual **muscle** fibers: mitochondrial specialization for source of energy
 AU Hirsch, Hilde E.; Parks, Mary Ellen; Blanco, Cesar E.; Simpson, Donald R.
 CS Jerry Lewis Neuromusc. Res. Cent., Univ. California, Los Angeles, CA, USA
 SO J. Neurosci. Res. (1982), 8(1), 7-12
 CODEN: JNREDK; ISSN: 0360-4012
 DT Journal
 LA English

L21 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2001 ACS
 AN 1974:489187 CAPLUS
 DN 81:89187
 TI Hypotrophic type I **muscle** fibers with central nuclei, and central myofibrillar lysis preferentially involving type II fibers
 AU Radu, H.; Ionescu, V.; Radu, A.; Paler, V.; Rosu, A. M.; Marian, A.
 CS Spitalul Patol. Neuro-Musculara, Vilcele/Covasna, Rom.
 SO Eur. Neurol. (1974), 11(2), 108-27

CODEN: EUNEAP
DT Journal
LA English

=> d his

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FILE 'REGISTRY' ENTERED AT 13:20:16 ON 12 JUN 2001

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L2 0 S THIOACTIC ACID
L3 15 S THIOCTIC ACID

FILE 'CAPLUS' ENTERED AT 13:21:08 ON 12 JUN 2001

L4 3087 S L1
L5 1672 S L3
L6 3177 S L4 OR L5
E DIET
E ENDURANCE
L7 8531 S E3
L8 2 S L6 AND L7
E EXERCISE
L9 28693 S E3
L10 7 S L6 AND L9
E STRENGTH
L11 646472 S E3
E MUSCLE
E MUSCLE
L12 234127 S E3
L13 3633 S L11 AND L12
L14 6 S L13 AND L6
E WORKOUT
L15 39 S E3 OR E4
L16 0 S L15 AND L6
E ATHLETE
E ATHLETIC
E ATHLETE
L17 2665 S E3 OR E4
L18 2 S L17 AND L6
E FUNCTION
L19 1005980 S E3
L20 269 S L19 AND L6
L21 8 S L20 AND MUSCLE

=> s 120 and 117

L22 0 L20 AND L17

=> s 120 and 110

L23 0 L20 AND L10

=> s 120 and 17

L24 0 L20 AND L7

=> s 120 and 112

L25 8 L20 AND L12

=> s 120 and 111

=> d 126 1-7

L26 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2001 ACS

AN 2000:33527 CAPLUS

DN 132:83671

TI Creatine-containing formulations

IN Seyerl, Joachim

PA SKW Trostberg A.-G., Germany

SO Ger. Offen., 6 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19830768	A1	20000113	DE 1998-19830768	19980709

L26 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2001 ACS

AN 1993:2781 CAPLUS

DN 118:2781

TI Purification, characterization and **function** of dihydrolipoamide dehydrogenase from the cyanobacterium Anabaena sp. strain P.C.C. 7119

AU Serrano, Aurelio

CS Inst. Bioquim. Veg. Fotosint., Univ. Sevilla, Seville, 41080, Spain

SO Biochem. J. (1992), 288(3), 823-30

CODEN: BIJOAK; ISSN: 0306-3275

DT Journal

LA English

L26 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2001 ACS

AN 1992:36901 CAPLUS

DN 116:36901

TI Structural and catalytic functions of the protein X subunit of mammalian pyruvate dehydrogenase multienzyme complex

AU Neagle, James; Stansbie, David; Lindsay, J. Gordon

CS Dep. Biochem., Univ. Glasgow, Glasgow, G12 8QQ, UK

SO Biochem. Physiol. Thiamin Diphosphate Enzymes, Proc. Int. Meet. Funct.

Thiamin Diphosphate Enzymes (1991), Meeting Date 1990, 157-63.

Editor(s):

Bisswanger, Hans; Ullrich, Johannes. Publisher: VCH, Weinheim, Fed. Rep. Ger.

CODEN: 57LOA7

DT Conference

LA English

L26 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2001 ACS

AN 1991:553866 CAPLUS

DN 115:153866

TI Selective proteolysis of the protein X subunit of the bovine heart pyruvate dehydrogenase complex. Effects on dihydrolipoamide dehydrogenase

(E3) affinity and enzymic properties of the complex

AU Neagle, James C.; Lindsay, J. Gordon

CS Dep. Biochem., Univ. Glasgow, Glasgow, G12 8QQ, UK

SO Biochem. J. (1991), 278(2), 423-7

CODEN: BIJOAK; ISSN: 0306-3275

DT Journal

LA English

L26 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2001 ACS
 AN 1988:566144 CAPLUS
 DN 109:166144
 TI The novel disulfide reductase bis- γ -glutamylcystine reductase and dihydrolipoamide dehydrogenase from Halobacterium halobium: purification by immobilized-metal-ion affinity chromatography and properties of the enzymes
 AU Sundquist, Alfred R.; Fahey, Robert C.
 CS Dep. Chem., Univ. California, San Diego, La Jolla, CA, 92093-0506, USA
 SO J. Bacteriol. (1988), 170(8), 3459-67
 CODEN: JOBAAY; ISSN: 0021-9193
 DT Journal
 LA English

L26 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2001 ACS
 AN 1987:98327 CAPLUS
 DN 106:98327
 TI The reaction of oxalyl thioesters with nucleophiles, especially thiols
 AU Law, William A.; Hamilton, Gordon A.
 CS Dep. Chem., Pennsylvania State Univ., University Park, PA, 16802, USA
 SO Bioorg. Chem. (1986), 14(4), 378-91
 CODEN: BOCMBM; ISSN: 0045-2068
 DT Journal
 LA English

L26 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2001 ACS
 AN 1983:212074 CAPLUS
 DN 98:212074
 TI Heterogeneity of binding sites for the pyruvate dehydrogenase component on the dihydrolipoyl transacetylase core of bovine kidney pyruvate dehydrogenase complex
 AU Brandt, Douglas R.; Roche, Thomas E.; Pratt, Mary L.
 CS Dep. Biochem., Kansas State Univ., Manhattan, KS, 66506, USA
 SO Biochemistry (1983), 22(12), 2958-65
 CODEN: BICHAW; ISSN: 0006-2960
 DT Journal
 LA English

=> d 126 3 all

L26 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2001 ACS
 AN 1992:36901 CAPLUS
 DN 116:36901
 TI Structural and catalytic functions of the protein X subunit of mammalian pyruvate dehydrogenase multienzyme complex
 AU Neagle, James; Stansbie, David; Lindsay, J. Gordon
 CS Dep. Biochem., Univ. Glasgow, Glasgow, G12 8QQ, UK
 SO Biochem. Physiol. Thiamin Diphosphate Enzymes, Proc. Int. Meet. Funct. Thiamin Diphosphate Enzymes (1991), Meeting Date 1990, 157-63.
 Editor(s):
 Bisswanger, Hans; Ullrich, Johannes. Publisher: VCH, Weinheim, Fed. Rep. Ger.
 CODEN: 57LOA7
 DT Conference
 LA English
 CC 7-5 (Enzymes)
 AB Selective proteolysis of the protein X subunit of the native bovine heart pyruvate dehydrogenase complex (PDC) may be accomplished without loss of overall complex activity. Partial loss of **function** occurs if Mg²⁺ and thiamin pyrophosphate are not present during protease Arg C

treatment. These cofactors are necessary to prevent cleavage of the pyruvate decarboxylase (E1) component .alpha. subunit. Specific depletion of protein X leads to marked alterations in the general enzymic properties of the complex. Lipoamide dehydrogenase (E3) exhibits a decreased affinity for the core assembly and the complex is much more susceptible to inactivation at high ionic **strength**. The inactive form of the complex is not readily reactivated by removal of salt. Although that the presence of protein X apparently is not essential to maintain an enzymically active complex, it plays an important structural role in promoting the correct assocn. of E3 with the lipoate acetyltransferase (E2) core, which is an obligatory step in the formation of the functional multimeric assembly.

ST pyruvate dehydrogenase protein X **function** mammal
IT Lipoproteins
RL: PROC (Process)
(pyruvate dehydrogenase complex-assocd., X, of mammals, structure and **function** of)

IT 9014-20-4, Pyruvate dehydrogenase
RL: BIOL (Biological study)
(complex, of mammals, structure and **function** of protein X subunit in)

IT **9001-18-7**, Lipoamide dehydrogenase
RL: BIOL (Biological study)
(protein X subunit interaction with, in mammalian pyruvate dehydrogenase complex)

=> d his

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FILE 'REGISTRY' ENTERED AT 13:20:16 ON 12 JUN 2001

L1 61 S LIPOIC ACID
L2 0 S THIOACTIC ACID
L3 15 S THIOCTIC ACID

FILE 'CAPLUS' ENTERED AT 13:21:08 ON 12 JUN 2001

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L5 1672 S L3
L6 3177 S L4 OR L5
E DIET
E ENDURANCE
L7 8531 S E3
L8 2 S L6 AND L7
E EXERCISE
L9 28693 S E3
L10 7 S L6 AND L9
E STRENGTH
L11 646472 S E3
E MUSCULE
E MUSCLE
L12 234127 S E3
L13 3633 S L11 AND L12
L14 6 S L13 AND L6
E WORKOUT
L15 39 S E3 OR E4
L16 0 S L15 AND L6
E ATHLETE
E ATHLETIC

E ATHLETE
 L17 2665 S E3 OR E4
 L18 2 S L17 AND L6
 E FUNCTION
 L19 1005980 S E3
 L20 269 S L19 AND L6
 L21 8 S L20 AND MUSCLE
 L22 0 S L20 AND L17
 L23 0 S L20 AND L10
 L24 0 S L20 AND L7
 L25 8 S L20 AND L12
 L26 7 S L20 AND L11

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Executing the logoff script...

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FULL ESTIMATED COST	80.70	103.96
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	-5.29	-5.29

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